

“But then with me the horrid doubt always arises whether the convictions of man's mind, which has been developed from the mind of the lower animals, are of any value or at all trustworthy. Would any one trust in the convictions of a monkey's mind, if there are any convictions in such a mind?” - Charles Darwin's “Letter to William Graham” (1881)

“[C]reatures inveterately wrong in their inductions have a pathetic but praiseworthy tendency to die out before reproducing their kind.” W. V. Quine (1969) “Epistemology Naturalized”

“Natural selection guarantees that most of an organism's beliefs will be true, most of its strategies rational.” Daniel Dennett (1981) “True Believers”

“[A] nervous system enables the organism to succeed in the four F's: feeding, fleeing, fighting and reproducing. The principle chore of the nervous systems is to get the body parts where they should be in order that the organism may survive... Truth, whatever that is, definitely takes the hindmost.” Patricia Churchland (1987) “Epistemology in the Age of Neuroscience”

Introduction

Does natural selection favour rational or reliable beliefs? Following Quine and Dennett, it might seem obvious that reason and rationality have survival value: if I don't pay attention to the cliff in front of me, I might fall and die. We might, on the other hand, follow Darwin and Churchland in thinking that accurate or rational beliefs are not necessarily favoured by natural selection. After all, natural selection ultimately only “cares” about survival and reproductive success. Many organisms do quite well without sophisticated cognitive capacities. Furthermore, psychological evidence suggests we're often rather irrational. How have we managed to do as well as we have despite our irrational blind spots?

We will examine the debate between those who think selection favours rational or reliable belief formation and those who have been skeptical of any such connection. To do this, we'll look at some models of the evolution of the emotions, moral psychology and religious belief, since some argue that these are sources of irrationality. *En passant*, we'll consider some general issues in philosophy of biology about the strength of natural selection and how evolutionary hypotheses are tested.

Prerequisites

There are no official prerequisites, other than being a graduate student in philosophy. I will not presuppose prior exposure to evolutionary theory, though background in evolutionary biology, probability, decision theory, philosophy of biology and philosophy of mind will be an asset.

Evaluation

(1) Presentation (20%) Each student is expected to give an in-class presentation (with an associated presentation paper of about 4-5 double-spaced pages) once during the term. I will pass around a sign-up sheet on the first day.

(2) Weekly Participation (10%) You are expected to write a short (1-2 pages, double-spaced) paper each week (except for the first week and the week of your presentation) on some issue in that week's readings as well as participate actively in class discussion (including asking questions about the other students' presentations). Weekly papers and class participation will be marked on a “pass-fail” basis. Sometimes I may ask you to informally present your short paper in class. *Papers are due by midnight the day before class meets.*

(3) Term Paper (70%) You must write an approximately 5,000-word term paper on some issue concerning evolution and rationality. The final paper is due Friday, **December 18th**, but a version of your term paper must also be presented in class on **Nov. 30th**. You must meet with me and get your topic approved by Friday, **Nov. 20th**.

Note: *instead of the 5,000-word term paper, you may instead choose to do the **problem set (10%)** and a shorter **(4,000 word) term paper (60%)**. If you choose this option, this course fulfils the formal methods requirement for PhD students in Philosophy.* The problem set will be due on Friday, **Oct. 30th**.

NOTE: Due to the Pandemic, it is highly likely that this class will be all “on line”, though students are expected to show up (virtually) on Mondays for synchronous lecture and discussion. Please email me all assignments and papers.

Topics and Readings: Readings will be available on the UBC Canvas site.

Week-Date	Topics	Primary Readings	Optional Background & Further Readings
1 Sept. 14	Intro to Evolution & Rationality	(1) Sober "Three Differences between Deliberation and Evolution" in <i>Modeling Rationality, Morality & Evolution</i> , ed. P. Danielson (1988) (2) Stich "Evolution & Rationality" ch. 3 of <i>The Fragmentation of Reason</i> , MIT Press (1993).	(1) Sober, <i>Philosophy of Biology</i> , ch. 1 (1998) (2) "15 Evolutionary Gems" Gee, Howlett, & Campbell <i>Nature</i> (2009)
2 Sept. 21	Evolution & Naturalism: Plantinga	(1) Sober, An Introduction to Bayesian Epistemology" (2) Plantinga "Is Naturalism Irrational?" ch. 12 of <i>Warrant and Proper Function</i> , OU Press (1993) (3) Fitelson and Sober "Plantinga's Probability Arguments" <i>Pacific Phil Quarterly</i> (1997) (4) Plantinga "Probability and Defeaters" <i>PPQ</i> (2003)	Plantinga, ch. 10 of <i>Where the Conflict Really Lies</i> , Oxford University Press (2011)
3 Sept. 28	Signal detection; evolution and reliability	(1) Godfrey-Smith "Signal, Detection, Action" <i>Journal of Philosophy</i> 88 12: 709-22. (2) Stephens "When is it selectively advantageous to have true beliefs?" <i>Philosophical Studies</i> (2001)	(1) PGS <i>Complexity and the Function of Mind in Nature</i> (2) Sober "The Evolution of Rationality"
4 Oct. 5	Evolutionary Psychology: Wason Selection Task	(1) Cosmides and Tooby "Cognitive Adaptations for Social Exchange" from <i>The Adapted Mind</i> , (1992) (2) Lloyd "Evolutionary Psychology: the burdens of proof" (1999) <i>Biology and Philosophy</i>	(1) Buller, <i>Adapting Minds</i> (2) Sperber and Girotto "Use and Misuse of Wason Selection Task" from <i>Reasoning</i> (p. 866-74.) (3) Fodor "Why we are so good at catching cheaters" from <i>Reasoning</i> (p. 875-877).
5 Oct. 19	Evolution & emotions	(1) Frank, <i>Passions within Reason</i> , ch. 4 (2) Ross & Demochel "Emotions as Strategic Signals" <i>Rationality & Society</i> 2004: 251-86. (3) Frank "In Defense of Sincerity Detection" <i>Rationality & Society</i> 2004: 287-395.	(1) Frank, <i>Passions within Reason</i> , ch. 1, 2, 3 (2) O'Connor "The evolution of guilt: a model-based approach" <i>Philosophy of Science</i> Dec. 2016.
6 Oct. 26	Evolution & morality: the social contract	(1) Skyrms "Sex and Justice" (1994) <i>Journal of Philosophy</i> 91: 6: 305-320. (2) D'Arms et al "Sex, Fairness and the theory of games" <i>Philosophy of Science</i> 65: 76-102 (3) Skyrms "Commitment", ch. 2 of <i>Evolution of the Social Contract</i> (1996)	(1) Axelrod and Hamilton (1981) "The evolution of cooperation" (2) Skyrms <i>Evolution of the Social Contract</i> (1996) (3) Skyrms <i>The Stag Hunt</i>
7 Nov. 2	Evolution & Ultimatum Game: cross cultural and comparative evidence	(1) Henrich, et al. "In Search of <i>Homo economicus</i> Experiments in 15 Small-scale Societies" <i>American Economic Review</i> 91: 73-79 (2001). (2) Santos "The Evolution of Irrationality: Insights from Non-Human Primates" (2007) <i>Oxford Studies in Epistemology</i> , v.2, p. 87-106. (3) Jensen et al. "Chimpanzees are rational maximizers in the ultimatum game" <i>Science</i> 5 Oct. 2007, p. 107 (or Kaiser/Jensen 2012) (or, Proctor & de Waal 2013) & Jensen, Call 2013 letter reply	Henrich, Heine, and Norenzayan "The weirdest people in the world?" <i>Behavioral and Brain Sciences</i> , (2010) June: 61-83. https://leakeyfoundation.org/video-laurie-santos-the-evolution-of-irrationality/
8 Nov. 9	The evolution of religious belief; Evolutionary debunking	(1) Alcorta & Sosis "Ritual, Emotion and Sacred Symbols: the evolution of religion as an adaptive complex" (2005) <i>Human Nature</i> , p. 323-359. (2) Wilkins & Griffiths "Evolutionary Debunking Arguments in Three Domains: fact, value and religion" in Maclaurin & Dawes (eds.) <i>A New Science of Religion</i> , Routledge (2012).	Shariff & Norenzayan (2007) "God is Watching: priming God concepts increases prosocial behavior in an anonymous economic game" <i>Psychological Science</i> , vol. 18, no. 9, p. 803-809.

9 Nov. 16	Evolution & Argumentative Theory	Mercier and Sperber "Why do humans reason? Arguments for an argumentative theory" <i>Behavioral and Brain Sciences</i> (2011) 34: 57-111.	Mercier & Sperber, <i>The Enigma of Reason</i> , Harvard U Press, (2017)
10 Nov. 23	Rationality as an Evolutionary Adaptation	Okasha, <i>Agents and Goals in Evolution</i> , ch. 6, 7, 8. Oxford University Press (2018).	(1) Resnick, <i>Choices</i> , ch. 1, 3 (p. 45-54) & ch. 4 (p. 81-88) (2) Okasha "Rational Choice, Risk Aversion, and Evolution" <i>Journal of Philosophy</i> 5: 217-35 (3) Orr "Absolute fitness, relative fitness and utility" <i>Evolution</i> (2007): 2997-3000.
11 Nov. 30	Your Papers!	None – Presentations!	http://www.koksvik.net/talk.php https://www.slideshare.net/jessedee/you-suck-at-powerpoint/52-Design-dont-just-slapsomething-together